

Title (en)  
Hydraulic control apparatus and method for manufacturing the same

Title (de)  
Hydrauliksteuervorrichtung und Herstellungsverfahren dafür

Title (fr)  
Appareil à contrôle hydraulique et son procédé de fabrication

Publication  
**EP 2457788 A3 20121219 (EN)**

Application  
**EP 11190487 A 20111124**

Priority  
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Abstract (en)  
[origin: EP2457788A2] According to the invention, there is provided a hydraulic control apparatus (1), including: a base body (10); and a housing (30) to be fixed to one surface (11) of the base body (10), wherein the housing (30) includes an opening (33a) facing the one surface (11) of the base body (10), wherein the opening (33a) includes a flange portion (36) formed on and projected outwardly from an opening edge portion (35), and wherein the flange portion (36) includes a threaded housing fixing hole (37) for fixing the housing (30) to the base body (10) using a fastening member (80) and a center hole (38) for provisionally fixing the housing (30) when assembling parts (50) to the housing (30), the center hole (38) being formed by machining the flange portion (36) and arranged adjacent to the housing fixing hole (37). According to a further invention, there is provided a method for manufacturing the hydraulic control apparatus (1) using a fixing jig (100) with pins (101) for insertion into the center holes (38) of the housing (30).

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Citation (search report)

- [Y] JP 2009040125 A 20090226 - NISSIN KOGYO KK
- [Y] US 2008036292 A1 20080214 - SAKAI MORIHARU [JP], et al
- [A] US 2003194886 A1 20031016 - MUNDY SEBASTIAN M [DE], et al
- [AD] JP 2009006855 A 20090115 - NISSIN KOGYO KK & EP 2008895 A2 20081231 - NISSIN KOGYO KK [JP]

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